

**U.S.ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ANALYTICAL RADIATION ENVIRONMENTAL LABORATORY
540 S. MORRIS AVE., MONTGOMERY, AL 36115
GAMMA ANALYSES**

REPORT OF SAMPLE DELIVERY GROUP #1600017

Project: Canadian Radium & Uranium, Mt. Kisco, NY
 Analysis method: Gamma-ray Spectrometry - Sealed Radium Cans
 Report ID: 1600017-GAMMA-RA
 Report type: Original
 Date reported: 06/16/2016
 Total pages in report: 31

SAMPLES

NAREL Sample #	Client Sample ID	Location	Matrix	Date Collected	Date Received
B6.04138J	C3-SB9-0012-01	NY:MT. KISCO	SOIL	04/05/2016	04/19/2016
B6.04139K	C3-SB9-1224-01	NY:MT. KISCO	SOIL	04/05/2016	04/19/2016
B6.04140C	C3-SB10-0012-01	NY:MT. KISCO	SOIL	04/05/2016	04/19/2016
B6.04141D	C3-SB10-1224-01	NY:MT. KISCO	SOIL	04/05/2016	04/19/2016
B6.04142E	C3-SB10-6072-01	NY:MT. KISCO	SOIL	04/05/2016	04/19/2016
B6.04143F	C3-SB10-7284-01	NY:MT. KISCO	SOIL	04/05/2016	04/19/2016
B6.04144G	C3-SB10-8496-01	NY:MT. KISCO	SOIL	04/05/2016	04/19/2016
B6.04145H	C3-SB11-0012-01	NY:MT. KISCO	SOIL	04/06/2016	04/19/2016
B6.04146J	C3-SB11-3648-01	NY:MT. KISCO	SOIL	04/06/2016	04/19/2016
B6.04147K	C3-SB12-0012-01	NY:MT. KISCO	SOIL	04/06/2016	04/19/2016
B6.04148L	C3-SB13-0012-01	NY:MT. KISCO	SOIL	04/06/2016	04/19/2016
B6.04149M	C3-SB13-1224-01	NY:MT. KISCO	SOIL	04/06/2016	04/19/2016
B6.04150E	C3-SB14-0012-01	NY:MT. KISCO	SOIL	04/06/2016	04/19/2016
B6.04151F	C3-SB15-0012-01	NY:MT. KISCO	SOIL	04/06/2016	04/19/2016
B6.04152G	C3-SB15-2436-01	NY:MT. KISCO	SOIL	04/06/2016	04/19/2016
B6.04153H	C3-SB16-0012-01	NY:MT. KISCO	SOIL	04/06/2016	04/19/2016
B6.04154J	C3-SB16-3648-01	NY:MT. KISCO	SOIL	04/06/2016	04/19/2016

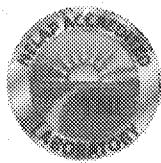
EXCEPTIONS

- Packaging and shipping** – No problems were observed.
- Documentation** – No problems were observed.
- Sample preparation** – No problems were encountered.
- Analysis** – Samples were held for 21 days to allow for ingrowth. Client requested that NAREL report the following: Cs-137, Th-234, Tl-208, Ra-228, Ac-228, Bi-210, Ra-226, Pb-214, Bi-214, Bi-212, Pb-212, Pb-210, and K-40. Client was informed that NAREL does not provide Ac-228 or Bi-210 results by gamma analysis. Also, client requested specific methods to be used, but NAREL uses in-house methods. Client agreed NAREL methods were acceptable. Please see page 4 of this report with regards to exceptions for reporting of some of the nuclides in this list. For Pb-210 in soil samples, NAREL flags the results because of the larger uncertainty associated with gamma-ray attenuation in uncharacterized materials at low energies (46.5 keV).
- Holding times** – No holding times were specified.

QUALITY CONTROL

1. QC samples – All QC analysis results met NAREL acceptance criteria.
2. Instruments – Response and background checks for all instruments used in these analyses met NAREL acceptance criteria.

ACCREDITATION



All analyses included in this data package are accredited by the Oregon Environmental Laboratory Accreditation Program (ORELAP) to the TNI standard.

CERTIFICATION

I certify that this data report complies with the terms and conditions of the Project Acceptance Form and/or the Quality Assurance Project Plan, except as noted above. Release of the data contained in this report has been authorized by the Director of the Center for Environmental Radioanalytical Laboratory Science and the NAREL Quality Assurance Manager, or their designees, as verified by the following signatures.

A handwritten signature in black ink, appearing to read "Velinda Herbert".

Velinda Herbert
Quality Assurance Manager, NAREL

6/22/16
Date

A handwritten signature in black ink, appearing to read "Cynthia White".

Cynthia White
Director, Center for Environmental Radioanalytical
Laboratory Science

6-22-16
Date

GENERAL INFORMATION

SAMPLE TYPES

BLD	Blind sample
FBK	Field blank
SAM	Normal sample

ANALYSIS QC TYPES

ANA	Normal analysis
DUP	Laboratory duplicate
LCS	Laboratory control sample, or blank spike
MS	Matrix spike
MSD	Matrix spike duplicate (not currently analyzed)
RBK	Method blank
STD	External standard (used for ^{228}Ra yield determination)

QUALITY INDICATORS

RPD	Relative Percent Difference
%R	Percent Recovery
Z	Number of standard deviations by which a QC measurement differs from the expected value

RADIOCHEMICAL DATA

Radiochemical analyses usually require the subtraction of an instrument background measurement result from a gross sample measurement result. Both values are positive, but when the sample activity is low, random variations in the two measurements can cause the gross value to be less than the background, resulting in a measured activity less than zero. Although negative activities have no physical significance, they do have statistical importance, as for example in the evaluation of trends or the comparison of two groups of samples.

To the extent practical, it is the policy of NAREL to report results as generated, whether positive, negative, or zero, together with the "2-sigma" measurement uncertainty and a sample-specific estimate of the minimum detectable concentration (MDC). The measurement result, uncertainty, and MDC are always expressed in the same unit of measurement.

EVALUATION OF QC ANALYSES

A method blank result is considered unacceptable if it is more than 3 standard deviations below zero or more than 3 standard deviations above a predetermined upper control limit. For some analyses NAREL has set the upper control limit at zero. For others the control limit is a small positive number.

NAREL evaluates the results of duplicate and spike analyses using "Z scores." A Z score is the number of standard deviations by which the QC result differs from its ideal value. Generally the score is considered acceptable if its absolute value is not greater than 3.

The Z score for a spiked sample is computed by dividing the difference between the measured value and the target value by the combined standard uncertainty of the difference. The Z score for a duplicate analysis is computed by dividing the difference between the two measured values by the combined standard uncertainty of the difference.

NAREL reports the "relative percent difference," or RPD, between duplicate results and the "percent recovery," or %R, for spiked analyses, but does not use these values for evaluation of most analyses. An exception is the use of %R in the evaluation of gross alpha matrix spike results. A gross alpha matrix spike result is considered acceptable if either $|Z| \leq 3$ or $60 \leq \%R \leq 110$.

GENERAL INFORMATION (CONTINUED)

GAMMA ANALYSIS

The reporting format lists the gamma emitters in alphabetical order. The activity, 2-sigma uncertainty, and a sample-specific estimate of the MDC for radionuclides measured by gamma spectroscopy are reported only if the nuclide is detected above background with the exception of client requested nuclides of interest. The activity for each of the requested nuclides is reported whether negative, positive, or zero along with the associated 2-sigma uncertainty and the sample-specific estimate of the MDC.

Due to potential spectral interferences and other possible problems associated with the determination of the activity of certain radionuclides, the activities for ^{214}Bi , ^{214}Pb , ^{234}Th , $^{234\text{m}}\text{Pa}$, ^{226}Ra , ^{231}Th , and ^{235}U are subject to greater uncertainty than other commonly reported radionuclides. It should be noted that this potential uncertainty is not included in the two-sigma expanded uncertainty that is reported with each result. Although in this report we do provide the calculated activities for these radionuclides, we recommend that the results be used only as a qualitative means of indicating the presence of these radionuclides and not as a quantitative measure of their concentration. The results for these nuclides are not used in the evaluation of quality control samples. Furthermore, because of mutual interference between ^{226}Ra and ^{235}U , NAREL's gamma analysis software tends to overestimate the amounts of these nuclides whenever both are present in a sample. Lower estimates for ^{226}Ra activities can be obtained from the reported activities of its decay products, ^{214}Pb and ^{214}Bi , which are likely to be somewhat less than the ^{226}Ra activity because of the potential escape of radon gas.

NAREL's gamma-ray spectrometry software corrects activities and MDCs for decay between collection and analysis, but only up to a limit of twelve half-lives. If the decay time for a sample exceeds twelve half-lives of a radionuclide, that radionuclide is not reported. This software feature may affect results for short-lived radionuclides, such as ^{131}I and ^{140}Ba , when there is a long delay between collection and analysis.

USEPA

Date Shipped: 4/18/2016
 Carrier Name: FedEx
 Airbill No: 81722 3572 1383

CHAIN OF CUSTODY RECORD
 Canadian Radium & Uranium Company
 Contact Name: Bernard Nwosu
 Contact Phone: (908) 565-2980

No: 2-041816-105138-0008
 Lab: NAFL
 Lab Contact: Tonya Hudson
 Lab Phone: (343) 270-3433

Lab #	Sample #	Sample Date	Sample Time	Analyses	Matrix	Preservative	Lab QC	Numb Cont	Container
	C003-SB007-2436-42	4/5/2016	16:23	Gamma Spec. (Modified)	Soil	4 C	N	1	16 oz glass jar
	C003-SB007-3648-01	4/5/2016	16:23	Isotopic Thorium	Soil	4 C	N	1	8 oz glass jar
	C003-SB007-3648-01	4/5/2016	16:23	Isotopic Uranium	Soil	4 C	N	1	8 oz glass jar
3	C003-SB007-3648-01	4/5/2016	16:23	Gamma Spec. (Modified) ✓	Soil	4 C	N	1	16 oz glass jar ✓
3	C003-SB008-0012-01	4/5/2016	16:58 ✓	Isotopic Thorium ✓	Soil	4 C	N	1	8 oz glass jar ✓
3	C003-SB008-0012-01	4/5/2016	16:58 ✓	Isotopic Uranium ✓	Soil	4 C	N	1	8 oz glass jar ✓
3	C003-SB008-0012-01	4/5/2016	16:58 ✓	Gamma Spec. (Modified) ✓	Soil	4 C	N	1	16 oz glass jar ✓
3	C003-SB008-0012-01	4/5/2016	16:58 ✓	Isotopic Thorium ✓	Soil	4 C	Y	✓	8 oz glass jar ✓
3	C003-SB008-1224-01	4/5/2016	16:59 ✓	Isotopic Uranium ✓	Soil	4 C	Y	✓	8 oz glass jar ✓
3	C003-SB008-1224-01	4/5/2016	16:59 ✓	Gamma Spec. (Modified) ✓	Soil	4 C	N	1	16 oz glass jar ✓
3	C003-SB009-0012-01	4/5/2016	16:02	Isotopic Thorium	Soil	4 C	N	1	8 oz glass jar
3	C003-SB009-0012-01	4/5/2016	16:02	Isotopic Uranium	Soil	4 C	N	1	8 oz glass jar
3	C003-SB009-0012-01	4/5/2016	16:02	Gamma Spec. (Modified)	Soil	4 C	N	1	16 oz glass jar
3	C003-SB009-1224-01	4/5/2016	16:02	Isotopic Thorium	Soil	4 C	N	1	8 oz glass jar
3	C003-SB009-1224-01	4/5/2016	16:02	Isotopic Uranium	Soil	4 C	N	1	8 oz glass jar
3	C003-SB009-1224-01	4/5/2016	16:02	Gamma Spec. (Modified)	Soil	4 C	N	1	16 oz glass jar
3	C003-SB010-0012-01	4/5/2016	16:52 ✓	Isotopic Thorium ✓	Soil	4 C	N	1	8 oz glass jar ✓
3	C003-SB010-0012-01	4/5/2016	16:52 ✓	Isotopic Uranium ✓	Soil	4 C	N	1	8 oz glass jar ✓
3	C003-SB010-0012-01	4/5/2016	16:52 ✓	Gamma Spec. (Modified) ✓	Soil	4 C	N	1	16 oz glass jar ✓

Special Instructions: Sample Analysis PO# 0081198: Gamma Spectroscopy analysis for soil samples to include: Ra-226 (in-growth), Ra-228, K-40, Th-232, Bi-214, Pb-212, Pb-214, Ra-226, Ra-228, Th-234, Th-235, Pb-210, Ba-210. Email results to s.sumbaly@westonsolutions.com and ben.nwosu@westonsolutions.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Item/Reason	Reinquisition by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	Bernard Nwosu AS/BS		John N. Meier	4/18/16 11:15 AM	✓

USEPA
Date Shipped: 4/18/2016
Carrier Name: FedEx
Airtel No: 8022 3572 1393

CHAIN OF CUSTODY RECORD
Canadian Radium & Uranium Company
Contact Name: Bernard Navous
Contact Phone: (908) 565-2980

No. 2-041816-105138-0008
Lab: NARL
Lab Contact: Tanya Hudson
Lab Phone: (343) 270-3433

Lab #	Sample #	Sample Date	Sample Time	Analyses	Matrix	Preservative	Lab QC	Numb Cont	Container
3	C003-SB010-1224-01 ✓	4/5/2016	15:52 ✓	Isotopic Thorium ✓	Soil	4C	N	1	8 oz glass jar ✓
3	C003-SB010-1224-01 ✓	4/5/2016	15:52 ✓	Isotopic Uranium ✓	Soil	4C	N	1	8 oz glass jar ✓
3	C003-SB010-1224-01 ✓	4/5/2016	15:52 ✓	Gamma Spec (Modified) ✓	Soil	4C	N	1	16 oz glass jar ✓
3	C003-SB010-6072-01 ✓	4/5/2016	15:52 ✓	Isotopic Thorium ✓	Soil	4C	N	1	8 oz glass jar ✓
3	C003-SB010-6072-01 ✓	4/5/2016	15:52 ✓	Isotopic Uranium ✓	Soil	4C	N	1	8 oz glass jar ✓
3	C003-SB010-6072-01 ✓	4/5/2016	15:52 ✓	Gamma Spec (Modified) ✓	Soil	4C	N	1	16 oz glass jar ✓
3	C003-SB010-7284-01 ✓	4/5/2016	15:52 ✓	Isotopic Thorium ✓	Soil	4C	N	1	8 oz glass jar ✓
3	C003-SB010-7284-01 ✓	4/5/2016	15:52 ✓	Isotopic Uranium ✓	Soil	4C	N	1	8 oz glass jar ✓
3	C003-SB010-8486-01 ✓	4/5/2016	15:52 ✓	Gamma Spec (Modified) ✓	Soil	4C	N	1	16 oz glass jar ✓
3	C003-SB010-8486-01 ✓	4/5/2016	15:52 ✓	Isotopic Thorium ✓	Soil	4C	N	1	8 oz glass jar ✓
3	C003-SB010-8486-01 ✓	4/5/2016	15:52 ✓	Isotopic Uranium ✓	Soil	4C	N	1	8 oz glass jar ✓
3	C003-SB011-0012-01 ✓	4/6/2016	11:13	Gamma Spec (Modified) ✓	Soil	4C	N	1	16 oz glass jar ✓
4	C003-SB011-0012-01 ✓	4/6/2016	11:13	Isotopic Thorium ✓	Soil	4C	N	1	8 oz glass jar ✓
4	C003-SB011-0012-01 ✓	4/6/2016	11:13	Isotopic Uranium ✓	Soil	4C	N	1	8 oz glass jar ✓
4	C003-SB011-0012-01 ✓	4/6/2016	11:13	Gamma Spec (Modified) ✓	Soil	4C	N	1	16 oz glass jar ✓
3	C003-SB012-0012-01 ✓	4/6/2016	11:35 ✓	Isotopic Thorium ✓	Soil	4C	N	1	8 oz glass jar ✓

SPECIAL INSTRUCTIONS: Sample Analysis: PO# 0091198: Gamma Spectroscopy analysis for soil samples to include: Ra-226 (in-growth), Ra-228, K-40, Th-232, Bi-214, Pb-212, Po-214, Ra-226, Ra-228, Th-234, U-235, Pb-210, Bi-210. Email results to s.sumikay@westonsolutions.com and ben.nwosa@westonsolutions.com				SAMPLES TRANSFERRED FROM: CHAIN OF CUSTODY *	Sample Condition Upon Receipt
Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	Bernard Navous EST3	4/18/16 11:15	John NARL	4/18/16 11:15	Good (Broken Jar)

23

Date Shipped: 4/18/2016
Carrier Name: FedEx
Airbill No: 802235771338

CHINA'S DILEMMA

Canadian Radium & Uranium Corp./NY

Contact Name: Bernard Abusow

CULTURE

Contact phone: (908) 565-2380

No: 2-041816-10513B-0008
Lab: NAREL
Lab Contact: Tonya Hudson
Lab Number: 13401 070 3430

Lab #	Sample #	Sample Date	Sample Time	Analyses	Matrix	Preservative	Lab QC	Numb Cont	Container
✓ ✓ ✓	C003-SB012-0012-01 ✓	4/6/2016	11:35 ✓	Isotopic Uranium ✓	Soil	4 C	N	1	8 oz glass jar ✓
✓ ✓ ✓	C003-SB012-0012-01 ✓	4/6/2016	11:35 ✓	Gamma Spec (Modified) ✓	Soil	4 C	N	1	16 oz glass jar ✓
✓ ✓ ✓	C003-SB013-0012-01 ✓	4/6/2016	12:00	Isotopic Thorium ✗	Soil	4 C	N	1	8 oz glass jar ✓
✓ ✓ ✓	C003-SB013-0012-01 ✓	4/6/2016	12:00	Isotopic Uranium ✓	Soil	4 C	N	1	8 oz glass jar ✓
✓ ✓ ✓	C003-SB013-0012-01 ✓	4/6/2016	12:00	Gamma Spec (Modified) ✓	Soil	4 C	N	1	8 oz glass jar ✓
✓ ✓ ✓	C003-SB013-1224-01	4/6/2016	12:01	Isotopic Thorium ✓	Soil	4 C	N	1	8 oz glass jar ✓
✓ ✓ ✓	C003-SB013-1224-01	4/6/2016	12:01	Isotopic Uranium ✓	Soil	4 C	N	1	8 oz glass jar ✓
✓ ✓ ✓	C003-SB013-1224-01	4/6/2016	12:01	Gamma Spec (Modified)	Soil	4 C	N	1	16 oz glass jar ✓
✓ ✓ ✓	C003-SB014-0012-01 ✓	4/6/2016	12:28	Isotopic Thorium ✓ ✓	Soil	4 C	N	1	8 oz glass jar ✓
✓ ✓ ✓	C003-SB014-0012-01 ✓	4/6/2016	12:28	Isotopic Uranium ✓	Soil	4 C	N	1	8 oz glass jar ✓
✓ ✓ ✓	C003-SB014-0012-01 ✓	4/6/2016	12:28	Gamma Spec (Modified) ✓	Soil	4 C	N	1	16 oz glass jar ✓
✓ ✓ ✓	C003-SB015-0012-01 ✓	4/6/2016	16:43 ✓	Isotopic Thorium ✓	Soil	4 C	N	1	8 oz glass jar ✓
✓ ✓ ✓	C003-SB015-0012-01 ✓	4/6/2016	16:43 ✓	Isotopic Uranium ✓	Soil	4 C	N	1	8 oz glass jar ✓
✓ ✓ ✓	C003-SB015-0012-01 ✓	4/6/2016	16:43 ✓	Gamma Spec (Modified) ✓	Soil	4 C	N	1	16 oz glass jar ✓
✓ ✓ ✓	C003-SB015-0012-01 ✓	4/6/2016	16:43 ✓	Isotopic Thorium ✓	Soil	4 C	N	1	8 oz glass jar ✓
✓ ✓ ✓	C003-SB015-0012-01 ✓	4/6/2016	16:43 ✓	Isotopic Uranium ✗	Soil	4 C	N	1	8 oz glass jar ✓
✓ ✓ ✓	C003-SB015-0012-01 ✓	4/6/2016	16:43 ✓	Gamma Spec (Modified) ✓	Soil	4 C	N	1	16 oz glass jar ✓
✓ ✓ ✓	C003-SB016-0012-01	4/6/2016	08:35	Isotopic Thorium ✓	Soil	4 C	N	1	8 oz glass jar ✓
✓ ✓ ✓	C003-SB016-0012-01	4/6/2016	08:35	Isotopic Uranium ✓	Soil	4 C	N	1	8 oz glass jar ✓

Special Instructions: Sample Analysis P01-0091192: Gamma Spectroscopy analysis for soil samples to include Ra-226 (Un-growth), Ra-228, K-40, Th-228, Th-230, Bi-214, Pb-214, Pb-231, Bi-235, Ra-228, Th-234, U-235, Pb-210, Sr-210. Email results to sunburned@mac.com or sunburned@mac.com or sunburned@mac.com

SAMPLES TRANSFERRED FROM			
CHAIN OF CUSTODY #			
Item/Reason	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
Special Instructions: Sample Analysis PO#-009198: Gamma Spectroscopy analysis for soil samples to include: Ra-226 (In-growth), Ra-228, K-40, Th-228, Bi-210, Bi-214, Pb-212, Pb-214, Ra-226, Ra-228, Th-234, U-235, Pb-210, Th-234, Th-228, Pb-210. Email results to s.sumbaly@westonsolutions.com and benn.hwcst@westonsolutions.com	Bernard Schum EST3	09/04/14 10:15 AM	Good & Profitable

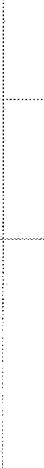
USEPA
DateShipped: 4/18/2018
CarrierName: FedEx
A#B#L# 8022 3572 1333

CANON 30 § 1300

Canadian Radium & Uranium Company
Contact Name: Bernard Nivesu
Contact phone: (604) 555-2000

Lab #	Sample Date	Sample Time	Analytes	Matrix	Preservative	Lab QC	Numb Cont	Container
C003-SB016-0012-01	4/6/2016	08:35	Gamma Spec (Modified) ✓	Soil	4 C	N	1	16 oz glass jar
C003-SB016-3648-01	4/6/2016	08:36	Isotopic Thorium ✓	Soil	4 C	N	1	8 oz glass jar
C003-SB016-3648-01	4/6/2016	08:36	Isotopic Uranium ✓	Soil	4 C	N	1	8 oz glass jar
C003-SB016-3648-01	4/6/2016	08:36	Gamma Spec (Modified) ✓	Soil	4 C	N	1	16 oz glass jar

Special Instructions: Sample Analysis ID#-00911986. Gamma Spectroscopy analysis for soil samples to include: Ra-226 (in ground), Sr-228, K-40, Th-232, Pb-214, Pb-212, Pb-210, U-234, U-235, Pb-210, Bi-210. Email results to srturnbull@westernsolutions.com and nmcnally@westernsolutions.com

Holds Reason	Reaffirmed by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Date/Time	Sample Condition Upon Receipt
Bernard Dow EST3		07/01/2014 10:00 AM		07/01/2014 10:00 AM		Good

**U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ANALYTICAL RADIATION ENVIRONMENTAL LABORATORY**

SDG #1600017

ANALYSIS SUMMARY

Analysis method: NAREL GAM-01-RA
 Title: Gamma-ray Spectrometry - Sealed Radium Cans

NAREL Sample #	Client Sample ID	QC Type	Date Completed	Preparation Batch #	Assay Batch #
B6.04138J	C3-SB9-0012-01		06/10/2016	0013448P	0020923Y
B6.04139K	C3-SB9-1224-01		06/10/2016	0013448P	0020923Y
B6.04140C	C3-SB10-0012-01		06/10/2016	0013448P	0020923Y
B6.04141D	C3-SB10-1224-01		06/10/2016	0013448P	0020923Y
B6.04142E	C3-SB10-6072-01		06/10/2016	0013448P	0020923Y
B6.04143F	C3-SB10-7284-01		06/10/2016	0013448P	0020923Y
B6.04144G	C3-SB10-8496-01		06/11/2016	0013448P	0020923Y
B6.04145H	C3-SB11-0012-01		06/11/2016	0013448P	0020923Y
B6.04146J	C3-SB11-3648-01		06/11/2016	0013448P	0020923Y
B6.04146J	C3-SB11-3648-01	DUP	06/14/2016	0013448P	0020923Y
B6.04147K	C3-SB12-0012-01		06/11/2016	0013448P	0020923Y
B6.04148L	C3-SB13-0012-01		06/11/2016	0013448P	0020923Y
B6.04149M	C3-SB13-1224-01		06/11/2016	0013448P	0020923Y
B6.04150E	C3-SB14-0012-01		06/14/2016	0013448P	0020923Y
B6.04151F	C3-SB15-0012-01		06/14/2016	0013448P	0020923Y
B6.04152G	C3-SB15-2436-01		06/14/2016	0013448P	0020923Y
B6.04153H	C3-SB16-0012-01		06/15/2016	0013448P	0020923Y
B6.04154J	C3-SB16-3648-01		06/15/2016	0013448P	0020923Y
LCS-00735408F *		LCS	06/16/2016	0013448P	0020923Y
RBK-00735409G *		RBK	06/16/2016	0013448P	0020923Y

* Samples marked with an asterisk are not in this sample delivery group but were analyzed with it for QC purposes.

**U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ANALYTICAL RADIATION ENVIRONMENTAL LABORATORY**

SDG #1600017

SAMPLE ANALYSIS REPORT

Lab sample #:	B6.04138J	Amount analyzed:	1.610e+02 GDRY
Client sample ID:	C3-SB9-0012-01	Preparation batch #:	0013448P
Matrix:	SOIL	Assay batch #:	0020923Y
Collected:	2016-04-05 18:02 EDT	Prep procedure:	N/A
Sample type:	SAM	Analysis method:	NAREL GAM-01-RA
Dry/wet weight:	96.88 %	Analyst:	MO
Ash/dry weight:	93.31 %	QC type:	ANA
Sample description:	N/A		
Comment:	N/A		

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/09/2016 14:36	1000.0	GE04	MO

ANALYTICAL RESULTS

Analyte		Activity	$\pm 2 \sigma$ Uncertainty	MDC	Unit	Reference Date
Bi212	J	3.13e-01	1.7e-01	1.7e-01	PCI/GDRY	04/05/2016 18:02 EDT
Bi214	J	6.56e-01	7.9e-02	2.5e-02	PCI/GDRY	04/05/2016 18:02 EDT
Cs137		9.47e-04	9.3e-03	1.2e-02	PCI/GDRY	04/05/2016 18:02 EDT
K40		9.17e+00	1.0e+00	1.5e-01	PCI/GDRY	04/05/2016 18:02 EDT
Pb210	J	5.53e-01	2.0e-01	2.3e-01	PCI/GDRY	04/05/2016 18:02 EDT
Pb212	J	3.78e-01	4.5e-02	1.8e-02	PCI/GDRY	04/05/2016 18:02 EDT
Pb214	J	7.87e-01	9.1e-02	2.6e-02	PCI/GDRY	04/05/2016 18:02 EDT
Ra226	J	1.04e+00	2.6e-01	2.6e-01	PCI/GDRY	04/05/2016 18:02 EDT
Ra228		3.99e-01	6.4e-02	4.5e-02	PCI/GDRY	04/05/2016 18:02 EDT
Th234	J	1.81e-01	2.0e-01	2.8e-01	PCI/GDRY	04/05/2016 18:02 EDT
Tl208	J	1.02e-01	1.7e-02	1.2e-02	PCI/GDRY	04/05/2016 18:02 EDT

Note: A "J" qualifier indicates a result that may be significantly under or overestimated.

**U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ANALYTICAL RADIATION ENVIRONMENTAL LABORATORY**

SDG #1600017

SAMPLE ANALYSIS REPORT

Lab sample #:	B6.04139K	Amount analyzed:	3.580e+02 GDRY
Client sample ID:	C3-SB9-1224-01	Preparation batch #:	0013448P
Matrix:	SOIL	Assay batch #:	0020923Y
Collected:	2016-04-05 18:02 EDT	Prep procedure:	N/A
Sample type:	SAM	Analysis method:	NAREL GAM-01-RA
Dry/wet weight:	94.08 %	Analyst:	MO
Ash/dry weight:	96.64 %	QC type:	ANA
Sample description:	N/A		
Comment:	N/A		

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/09/2016 14:37	1000.0	GE17	MO

ANALYTICAL RESULTS

Analyte		Activity	$\pm 2 \sigma$ Uncertainty	MDC	Unit	Reference Date
Bi212	J	6.63e-01	1.7e-01	1.7e-01	PCI/GDRY	04/05/2016 18:02 EDT
Bi214	J	1.46e+00	1.6e-01	2.6e-02	PCI/GDRY	04/05/2016 18:02 EDT
Cs137		-6.22e-03	9.2e-03	1.5e-02	PCI/GDRY	04/05/2016 18:02 EDT
K40		1.20e+01	1.3e+00	1.2e-01	PCI/GDRY	04/05/2016 18:02 EDT
Pb210	J	1.45e+00	2.2e-01	2.0e-01	PCI/GDRY	04/05/2016 18:02 EDT
Pb212	J	5.30e-01	6.2e-02	1.8e-02	PCI/GDRY	04/05/2016 18:02 EDT
Pb214	J	1.66e+00	1.9e-01	2.6e-02	PCI/GDRY	04/05/2016 18:02 EDT
Ra226	J	2.15e+00	2.9e-01	2.1e-01	PCI/GDRY	04/05/2016 18:02 EDT
Ra228		5.69e-01	8.2e-02	5.8e-02	PCI/GDRY	04/05/2016 18:02 EDT
Th234	J	4.07e-01	1.7e-01	2.4e-01	PCI/GDRY	04/05/2016 18:02 EDT
Tl208	J	1.67e-01	2.3e-02	1.6e-02	PCI/GDRY	04/05/2016 18:02 EDT

Note: A "J" qualifier indicates a result that may be significantly under or overestimated.

**U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ANALYTICAL RADIATION ENVIRONMENTAL LABORATORY**

SDG #1600017

SAMPLE ANALYSIS REPORT

Lab sample #:	B6.04140C	Amount analyzed:	3.230e+02 GDRY
Client sample ID:	C3-SB10-0012-01	Preparation batch #:	0013448P
Matrix:	SOIL	Assay batch #:	0020923Y
Collected:	2016-04-05 15:52 EDT	Prep procedure:	N/A
Sample type:	SAM	Analysis method:	NAREL GAM-01-RA
Dry/wet weight:	97.86 %	Analyst:	MO
Ash/dry weight:	92.49 %	QC type:	ANA
Sample description:	N/A		
Comment:	N/A		

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/09/2016 14:39	1000.0	GE16	MO

ANALYTICAL RESULTS

Analyte		Activity	$\pm 2 \sigma$ Uncertainty	MDC	Unit	Reference Date
Bi212	J	5.73e-01	1.1e-01	9.8e-02	PCI/GDRY	04/05/2016 15:52 EDT
Bi214	J	3.62e-01	4.4e-02	1.8e-02	PCI/GDRY	04/05/2016 15:52 EDT
Cs137		6.03e-03	6.3e-03	7.5e-03	PCI/GDRY	04/05/2016 15:52 EDT
K40		9.23e+00	1.0e+00	6.1e-02	PCI/GDRY	04/05/2016 15:52 EDT
Pb210	J	1.48e+00	2.3e-01	1.9e-01	PCI/GDRY	04/05/2016 15:52 EDT
Pb212	J	5.19e-01	6.0e-02	1.2e-02	PCI/GDRY	04/05/2016 15:52 EDT
Pb214	J	4.31e-01	5.0e-02	1.5e-02	PCI/GDRY	04/05/2016 15:52 EDT
Ra226	J	7.00e-01	1.3e-01	1.4e-01	PCI/GDRY	04/05/2016 15:52 EDT
Ra228		5.49e-01	6.5e-02	2.6e-02	PCI/GDRY	04/05/2016 15:52 EDT
Th234	J	4.63e-01	1.3e-01	1.7e-01	PCI/GDRY	04/05/2016 15:52 EDT
Tl208	J	1.73e-01	2.1e-02	7.7e-03	PCI/GDRY	04/05/2016 15:52 EDT

Note: A "J" qualifier indicates a result that may be significantly under or overestimated.

**U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ANALYTICAL RADIATION ENVIRONMENTAL LABORATORY**

SDG #1600017

SAMPLE ANALYSIS REPORT

Lab sample #:	B6.04141D	Amount analyzed:	3.040e+02 GDRY
Client sample ID:	C3-SB10-1224-01	Preparation batch #:	0013448P
Matrix:	SOIL	Assay batch #:	0020923Y
Collected:	2016-04-05 15:52 EDT	Prep procedure:	N/A
Sample type:	SAM	Analysis method:	NAREL GAM-01-RA
Dry/wet weight:	91.93 %	Analyst:	MO
Ash/dry weight:	92.48 %	QC type:	ANA
Sample description:	N/A		
Comment:	N/A		

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/09/2016 14:41	1000.0	GE18	MO

ANALYTICAL RESULTS

Analyte		Activity	$\pm 2 \sigma$ Uncertainty	MDC	Unit	Reference Date
Bi212	J	1.09e+00	2.6e-01	3.0e-01	PCI/GDRY	04/05/2016 15:52 EDT
Bi214	J	2.65e+01	2.9e+00	4.1e-02	PCI/GDRY	04/05/2016 15:52 EDT
Cs137		7.10e-02	1.5e-02	2.1e-02	PCI/GDRY	04/05/2016 15:52 EDT
K40		1.31e+01	1.5e+00	2.9e-01	PCI/GDRY	04/05/2016 15:52 EDT
Pb210	J	3.27e+01	3.8e+00	5.8e-01	PCI/GDRY	04/05/2016 15:52 EDT
Pb212	J	8.48e-01	9.9e-02	4.7e-02	PCI/GDRY	04/05/2016 15:52 EDT
Pb214	J	3.00e+01	3.3e+00	5.4e-02	PCI/GDRY	04/05/2016 15:52 EDT
Ra226	J	3.52e+01	3.9e+00	6.9e-01	PCI/GDRY	04/05/2016 15:52 EDT
Ra228		8.66e-01	1.2e-01	1.2e-01	PCI/GDRY	04/05/2016 15:52 EDT
Th234	J	7.80e-01	4.3e-01	6.7e-01	PCI/GDRY	04/05/2016 15:52 EDT
Tl208	J	2.62e-01	3.4e-02	2.5e-02	PCI/GDRY	04/05/2016 15:52 EDT
U235	J	3.03e-01	1.2e-01	1.8e-01	PCI/GDRY	04/05/2016 15:52 EDT

Note: A "J" qualifier indicates a result that may be significantly under or overestimated.

**U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ANALYTICAL RADIATION ENVIRONMENTAL LABORATORY**

SDG #1600017

SAMPLE ANALYSIS REPORT

Lab sample #:	B6.04142E	Amount analyzed:	2.620e+02 GDRY
Client sample ID:	C3-SB10-6072-01	Preparation batch #:	0013448P
Matrix:	SOIL	Assay batch #:	0020923Y
Collected:	2016-04-05 15:52 EDT	Prep procedure:	N/A
Sample type:	SAM	Analysis method:	NAREL GAM-01-RA
Dry/wet weight:	80.93 %	Analyst:	MO
Ash/dry weight:	88.93 %	QC type:	ANA
Sample description:	N/A		
Comment:	N/A		

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/09/2016 14:43	1000.0	GE12	MO

ANALYTICAL RESULTS

Analyte		Activity	$\pm 2 \sigma$ Uncertainty	MDC	Unit	Reference Date
Bi212	J	1.89e+00	3.0e-01	2.3e-01	PCI/GDRY	04/05/2016 15:52 EDT
Bi214	J	5.03e+00	5.5e-01	3.3e-02	PCI/GDRY	04/05/2016 15:52 EDT
Cs137		5.70e-03	1.4e-02	2.3e-02	PCI/GDRY	04/05/2016 15:52 EDT
K40		1.13e+01	1.3e+00	1.8e-01	PCI/GDRY	04/05/2016 15:52 EDT
Pb210	J	4.27e+00	5.1e-01	2.0e-01	PCI/GDRY	04/05/2016 15:52 EDT
Pb212	J	1.60e+00	1.8e-01	2.4e-02	PCI/GDRY	04/05/2016 15:52 EDT
Pb214	J	5.85e+00	6.4e-01	3.8e-02	PCI/GDRY	04/05/2016 15:52 EDT
Ra226	J	7.41e+00	8.8e-01	3.6e-01	PCI/GDRY	04/05/2016 15:52 EDT
Ra228		1.61e+00	1.8e-01	5.9e-02	PCI/GDRY	04/05/2016 15:52 EDT
Th234	J	8.96e-01	2.2e-01	2.9e-01	PCI/GDRY	04/05/2016 15:52 EDT
Tl208	J	4.91e-01	5.7e-02	1.8e-02	PCI/GDRY	04/05/2016 15:52 EDT
U235	J	1.41e-01	5.8e-02	8.4e-02	PCI/GDRY	04/05/2016 15:52 EDT

Note: A "J" qualifier indicates a result that may be significantly under or overestimated.

**U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ANALYTICAL RADIATION ENVIRONMENTAL LABORATORY**

SDG #1600017

SAMPLE ANALYSIS REPORT

Lab sample #:	B6.04143F	Amount analyzed:	2.020e+02 GDRY
Client sample ID:	C3-SB10-7284-01	Preparation batch #:	0013448P
Matrix:	SOIL	Assay batch #:	0020923Y
Collected:	2016-04-05 15:52 EDT	Prep procedure:	N/A
Sample type:	SAM	Analysis method:	NAREL GAM-01-RA
Dry/wet weight:	64.74 %	Analyst:	MO
Ash/dry weight:	77.25 %	QC type:	ANA
Sample description:	N/A		
Comment:	N/A		

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/09/2016 14:49	1000.0	GE15	MO

ANALYTICAL RESULTS

Analyte		Activity	$\pm 2 \sigma$ Uncertainty	MDC	Unit	Reference Date
Bi212	J	3.48e+00	4.9e-01	2.8e-01	PCI/GDRY	04/05/2016 15:52 EDT
Bi214	J	3.21e+00	3.6e-01	4.2e-02	PCI/GDRY	04/05/2016 15:52 EDT
Cs137		-1.29e-02	1.7e-02	1.9e-02	PCI/GDRY	04/05/2016 15:52 EDT
K40		9.59e+00	1.1e+00	1.9e-01	PCI/GDRY	04/05/2016 15:52 EDT
Pb210	J	2.84e+00	3.7e-01	2.7e-01	PCI/GDRY	04/05/2016 15:52 EDT
Pb212	J	3.42e+00	3.8e-01	3.6e-02	PCI/GDRY	04/05/2016 15:52 EDT
Pb214	J	3.81e+00	4.2e-01	4.5e-02	PCI/GDRY	04/05/2016 15:52 EDT
Ra226	J	5.16e+00	6.8e-01	4.1e-01	PCI/GDRY	04/05/2016 15:52 EDT
Ra228		3.28e+00	3.6e-01	5.7e-02	PCI/GDRY	04/05/2016 15:52 EDT
Th234	J	1.79e+00	3.9e-01	4.1e-01	PCI/GDRY	04/05/2016 15:52 EDT
Tl208	J	9.92e-01	1.1e-01	2.1e-02	PCI/GDRY	04/05/2016 15:52 EDT
U235	J	1.77e-01	7.2e-02	9.8e-02	PCI/GDRY	04/05/2016 15:52 EDT

Note: A "J" qualifier indicates a result that may be significantly under or overestimated.

**U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ANALYTICAL RADIATION ENVIRONMENTAL LABORATORY**

SDG #1600017

SAMPLE ANALYSIS REPORT

Lab sample #:	B6.04144G	Amount analyzed:	5.000e+02 GDRY
Client sample ID:	C3-SB10-8496-01	Preparation batch #:	0013448P
Matrix:	SOIL	Assay batch #:	0020923Y
Collected:	2016-04-05 15:52 EDT	Prep procedure:	N/A
Sample type:	SAM	Analysis method:	NAREL GAM-01-RA
Dry/wet weight:	71.62 %	Analyst:	MO
Ash/dry weight:	92.51 %	QC type:	ANA
Sample description:	N/A		
Comment:	N/A		

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/10/2016 14:59	1000.0	GE16	MO

ANALYTICAL RESULTS

Analyte		Activity	$\pm 2 \sigma$ Uncertainty	MDC	Unit	Reference Date
Bi212	J	1.17e+00	1.6e-01	1.0e-01	PCI/GDRY	04/05/2016 15:52 EDT
Bi214	J	9.83e-01	1.1e-01	1.7e-02	PCI/GDRY	04/05/2016 15:52 EDT
Cs137		-1.20e-03	7.3e-03	1.2e-02	PCI/GDRY	04/05/2016 15:52 EDT
K40		1.34e+01	1.5e+00	6.7e-02	PCI/GDRY	04/05/2016 15:52 EDT
Pb210	J	6.28e-01	1.3e-01	1.4e-01	PCI/GDRY	04/05/2016 15:52 EDT
Pb212	J	1.16e+00	1.3e-01	1.6e-02	PCI/GDRY	04/05/2016 15:52 EDT
Pb214	J	1.13e+00	1.3e-01	2.2e-02	PCI/GDRY	04/05/2016 15:52 EDT
Ra226	J	2.28e+00	3.1e-01	2.1e-01	PCI/GDRY	04/05/2016 15:52 EDT
Ra228		1.16e+00	1.3e-01	2.9e-02	PCI/GDRY	04/05/2016 15:52 EDT
Th234	J	1.28e+00	1.8e-01	1.8e-01	PCI/GDRY	04/05/2016 15:52 EDT
Tl208	J	3.63e-01	4.1e-02	9.1e-03	PCI/GDRY	04/05/2016 15:52 EDT
U235	J	1.00e-01	4.1e-02	5.7e-02	PCI/GDRY	04/05/2016 15:52 EDT

Note: A "J" qualifier indicates a result that may be significantly under or overestimated.

**U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ANALYTICAL RADIATION ENVIRONMENTAL LABORATORY**

SDG #1600017

SAMPLE ANALYSIS REPORT

Lab sample #:	B6.04145H	Amount analyzed:	1.840e+02 GDRY
Client sample ID:	C3-SB11-0012-01	Preparation batch #:	0013448P
Matrix:	SOIL	Assay batch #:	0020923Y
Collected:	2016-04-06 11:13 EDT	Prep procedure:	N/A
Sample type:	SAM	Analysis method:	NAREL GAM-01-RA
Dry/wet weight:	96.90 %	Analyst:	MO
Ash/dry weight:	94.29 %	QC type:	ANA
Sample description:	N/A		
Comment:	N/A		

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/10/2016 15:01	1000.0	GE04	MO

ANALYTICAL RESULTS

Analyte		Activity	$\pm 2 \sigma$ Uncertainty	MDC	Unit	Reference Date
Bi212	J	9.92e-01	2.1e-01	1.8e-01	PCI/GDRY	04/06/2016 11:13 EDT
Bi214	J	5.84e-01	7.1e-02	2.7e-02	PCI/GDRY	04/06/2016 11:13 EDT
Cs137		-5.16e-03	1.0e-02	1.3e-02	PCI/GDRY	04/06/2016 11:13 EDT
K40		2.08e+01	2.3e+00	1.4e-01	PCI/GDRY	04/06/2016 11:13 EDT
Pb210	J	5.77e-01	1.9e-01	2.4e-01	PCI/GDRY	04/06/2016 11:13 EDT
Pb212	J	1.03e+00	1.1e-01	1.9e-02	PCI/GDRY	04/06/2016 11:13 EDT
Pb214	J	6.85e-01	8.0e-02	2.6e-02	PCI/GDRY	04/06/2016 11:13 EDT
Ra226	J	1.13e+00	2.5e-01	2.5e-01	PCI/GDRY	04/06/2016 11:13 EDT
Ra228		9.83e-01	1.2e-01	5.1e-02	PCI/GDRY	04/06/2016 11:13 EDT
Th234	J	7.34e-01	2.1e-01	2.8e-01	PCI/GDRY	04/06/2016 11:13 EDT
Tl208	J	3.04e-01	3.7e-02	1.5e-02	PCI/GDRY	04/06/2016 11:13 EDT

Note: A "J" qualifier indicates a result that may be significantly under or overestimated.

**U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ANALYTICAL RADIATION ENVIRONMENTAL LABORATORY**

SDG #1600017

SAMPLE ANALYSIS REPORT

Lab sample #:	B6.04146J	Amount analyzed:	5.780e+02 GDRY
Client sample ID:	C3-SB11-3648-01	Preparation batch #:	0013448P
Matrix:	SOIL	Assay batch #:	0020923Y
Collected:	2016-04-06 11:13 EDT	Prep procedure:	N/A
Sample type:	SAM	Analysis method:	NAREL GAM-01-RA
Dry/wet weight:	87.49 %	Analyst:	MO
Ash/dry weight:	97.41 %	QC type:	ANA
Sample description:	N/A		
Comment:	N/A		

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/10/2016 15:05	1000.0	GE17	MO

ANALYTICAL RESULTS

Analyte		Activity	$\pm 2 \sigma$ Uncertainty	MDC	Unit	Reference Date
Bi212	J	9.45e-01	1.7e-01	1.5e-01	PCI/GDRY	04/06/2016 11:13 EDT
Bi214	J	4.40e-01	5.4e-02	2.2e-02	PCI/GDRY	04/06/2016 11:13 EDT
Cs137		-5.29e-03	8.7e-03	1.0e-02	PCI/GDRY	04/06/2016 11:13 EDT
K40		1.46e+01	1.6e+00	1.1e-01	PCI/GDRY	04/06/2016 11:13 EDT
Pb210	J	6.94e-01	1.8e-01	2.4e-01	PCI/GDRY	04/06/2016 11:13 EDT
Pb212	J	8.45e-01	9.6e-02	1.8e-02	PCI/GDRY	04/06/2016 11:13 EDT
Pb214	J	5.10e-01	6.1e-02	2.3e-02	PCI/GDRY	04/06/2016 11:13 EDT
Ra226	J	1.00e+00	1.9e-01	2.0e-01	PCI/GDRY	04/06/2016 11:13 EDT
Ra228		8.85e-01	1.0e-01	5.2e-02	PCI/GDRY	04/06/2016 11:13 EDT
Th234	J	5.44e-01	1.7e-01	2.4e-01	PCI/GDRY	04/06/2016 11:13 EDT
Tl208	J	2.64e-01	3.1e-02	1.3e-02	PCI/GDRY	04/06/2016 11:13 EDT

Note: A "J" qualifier indicates a result that may be significantly under or overestimated.

**U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ANALYTICAL RADIATION ENVIRONMENTAL LABORATORY**

SDG #1600017

SAMPLE ANALYSIS REPORT

Lab sample #:	B6.04146J	Amount analyzed:	5.780e+02 GDRY
Client sample ID:	C3-SB11-3648-01	Preparation batch #:	0013448P
Matrix:	SOIL	Assay batch #:	0020923Y
Collected:	2016-04-06 11:13 EDT	Prep procedure:	N/A
Sample type:	SAM	Analysis method:	NAREL GAM-01-RA
Dry/wet weight:	87.49 %	Analyst:	MO
Ash/dry weight:	97.41 %	QC type:	DUP
Sample description:	N/A		
Comment:	N/A		

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/13/2016 11:36	1000.0	GE18	MO

ANALYTICAL RESULTS

Analyte		Activity	$\pm 2 \sigma$ Uncertainty	MDC	Unit	Reference Date
Bi212	J	1.01e+00	1.7e-01	1.5e-01	PCI/GDRY	04/06/2016 11:13 EDT
Bi214	J	4.33e-01	5.2e-02	2.0e-02	PCI/GDRY	04/06/2016 11:13 EDT
Cs137		-8.83e-04	7.0e-03	8.8e-03	PCI/GDRY	04/06/2016 11:13 EDT
K40		1.47e+01	1.6e+00	9.0e-02	PCI/GDRY	04/06/2016 11:13 EDT
Pb210	J	6.89e-01	1.6e-01	2.1e-01	PCI/GDRY	04/06/2016 11:13 EDT
Pb212	J	8.26e-01	9.3e-02	1.7e-02	PCI/GDRY	04/06/2016 11:13 EDT
Pb214	J	4.99e-01	5.9e-02	2.2e-02	PCI/GDRY	04/06/2016 11:13 EDT
Ra226	J	8.35e-01	1.6e-01	1.8e-01	PCI/GDRY	04/06/2016 11:13 EDT
Ra228		8.40e-01	9.9e-02	4.9e-02	PCI/GDRY	04/06/2016 11:13 EDT
Th234	J	5.71e-01	1.4e-01	2.1e-01	PCI/GDRY	04/06/2016 11:13 EDT
Tl208	J	2.66e-01	3.2e-02	1.4e-02	PCI/GDRY	04/06/2016 11:13 EDT

Note: A "J" qualifier indicates a result that may be significantly under or overestimated.

**U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ANALYTICAL RADIATION ENVIRONMENTAL LABORATORY**

SDG #1600017

SAMPLE ANALYSIS REPORT

Lab sample #:	B6.04147K	Amount analyzed:	1.360e+02 GDRY
Client sample ID:	C3-SB12-0012-01	Preparation batch #:	0013448P
Matrix:	SOIL	Assay batch #:	0020923Y
Collected:	2016-04-06 11:35 EDT	Prep procedure:	N/A
Sample type:	SAM	Analysis method:	NAREL GAM-01-RA
Dry/wet weight:	98.86 %	Analyst:	MO
Ash/dry weight:	80.06 %	QC type:	ANA
Sample description:	N/A		
Comment:	N/A		

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/10/2016 15:10	1000.0	GE15	MO

ANALYTICAL RESULTS

Analyte		Activity	$\pm 2 \sigma$ Uncertainty	MDC	Unit	Reference Date
Bi212	J	4.73e-01	1.9e-01	2.0e-01	PCI/GDRY	04/06/2016 11:35 EDT
Bi214	J	3.46e-01	5.1e-02	3.3e-02	PCI/GDRY	04/06/2016 11:35 EDT
Cs137		-3.25e-03	1.1e-02	1.3e-02	PCI/GDRY	04/06/2016 11:35 EDT
K40		1.11e+01	1.3e+00	1.6e-01	PCI/GDRY	04/06/2016 11:35 EDT
Pb210	J	4.27e-01	1.3e-01	1.7e-01	PCI/GDRY	04/06/2016 11:35 EDT
Pb212	J	4.66e-01	5.6e-02	2.6e-02	PCI/GDRY	04/06/2016 11:35 EDT
Pb214	J	3.95e-01	5.5e-02	3.4e-02	PCI/GDRY	04/06/2016 11:35 EDT
Ra226	J	6.67e-01	2.3e-01	2.4e-01	PCI/GDRY	04/06/2016 11:35 EDT
Ra228		4.48e-01	6.7e-02	6.1e-02	PCI/GDRY	04/06/2016 11:35 EDT
Th234	J	5.13e-01	2.2e-01	2.4e-01	PCI/GDRY	04/06/2016 11:35 EDT
Tl208	J	1.40e-01	2.2e-02	1.7e-02	PCI/GDRY	04/06/2016 11:35 EDT

Note: A "J" qualifier indicates a result that may be significantly under or overestimated.

**U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ANALYTICAL RADIATION ENVIRONMENTAL LABORATORY**

SDG #1600017

SAMPLE ANALYSIS REPORT

Lab sample #:	B6.04148L	Amount analyzed:	1.540e+02 GDRY
Client sample ID:	C3-SB13-0012-01	Preparation batch #:	0013448P
Matrix:	SOIL	Assay batch #:	0020923Y
Collected:	2016-04-06 12:00 EDT	Prep procedure:	N/A
Sample type:	SAM	Analysis method:	NAREL GAM-01-RA
Dry/wet weight:	99.04 %	Analyst:	MO
Ash/dry weight:	83.55 %	QC type:	ANA
Sample description:	N/A		
Comment:	N/A		

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/10/2016 15:11	1000.0	GE12	MO

ANALYTICAL RESULTS

Analyte		Activity	$\pm 2 \sigma$ Uncertainty	MDC	Unit	Reference Date
Bi212	J	6.14e-01	1.9e-01	1.9e-01	PCI/GDRY	04/06/2016 12:00 EDT
Bi214	J	4.26e-01	5.7e-02	3.1e-02	PCI/GDRY	04/06/2016 12:00 EDT
Cs137		4.22e-03	9.8e-03	1.2e-02	PCI/GDRY	04/06/2016 12:00 EDT
K40		1.26e+01	1.4e+00	1.5e-01	PCI/GDRY	04/06/2016 12:00 EDT
Pb210	J	4.36e-01	2.2e-01	2.7e-01	PCI/GDRY	04/06/2016 12:00 EDT
Pb212	J	5.05e-01	5.9e-02	2.0e-02	PCI/GDRY	04/06/2016 12:00 EDT
Pb214	J	4.72e-01	5.8e-02	2.7e-02	PCI/GDRY	04/06/2016 12:00 EDT
Ra226	J	8.52e-01	2.2e-01	2.5e-01	PCI/GDRY	04/06/2016 12:00 EDT
Ra228		5.43e-01	7.8e-02	5.6e-02	PCI/GDRY	04/06/2016 12:00 EDT
Th234	J	4.59e-01	2.1e-01	2.8e-01	PCI/GDRY	04/06/2016 12:00 EDT
Tl208	J	1.58e-01	2.2e-02	1.3e-02	PCI/GDRY	04/06/2016 12:00 EDT
U235	J	6.65e-02	3.6e-02	5.3e-02	PCI/GDRY	04/06/2016 12:00 EDT

Note: A "J" qualifier indicates a result that may be significantly under or overestimated.

**U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ANALYTICAL RADIATION ENVIRONMENTAL LABORATORY**

SDG #1600017

SAMPLE ANALYSIS REPORT

Lab sample #:	B6.04149M	Amount analyzed:	3.600e+02 GDRY
Client sample ID:	C3-SB13-1224-01	Preparation batch #:	0013448P
Matrix:	SOIL	Assay batch #:	0020923Y
Collected:	2016-04-06 12:01 EDT	Prep procedure:	N/A
Sample type:	SAM	Analysis method:	NAREL GAM-01-RA
Dry/wet weight:	93.44 %	Analyst:	MO
Ash/dry weight:	98.23 %	QC type:	ANA
Sample description:	N/A		
Comment:	N/A		

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/10/2016 15:13	1000.0	GE18	MO

ANALYTICAL RESULTS

Analyte		Activity	$\pm 2 \sigma$ Uncertainty	MDC	Unit	Reference Date
Bi212	J	9.52e-01	1.7e-01	1.6e-01	PCI/GDRY	04/06/2016 12:01 EDT
Bi214	J	1.80e+00	2.0e-01	2.4e-02	PCI/GDRY	04/06/2016 12:01 EDT
Cs137		2.23e-03	9.0e-03	1.5e-02	PCI/GDRY	04/06/2016 12:01 EDT
K40		1.23e+01	1.4e+00	1.1e-01	PCI/GDRY	04/06/2016 12:01 EDT
Pb210	J	2.01e+00	2.9e-01	2.4e-01	PCI/GDRY	04/06/2016 12:01 EDT
Pb212	J	7.38e-01	8.3e-02	1.8e-02	PCI/GDRY	04/06/2016 12:01 EDT
Pb214	J	2.05e+00	2.3e-01	2.4e-02	PCI/GDRY	04/06/2016 12:01 EDT
Ra226	J	2.79e+00	3.6e-01	2.3e-01	PCI/GDRY	04/06/2016 12:01 EDT
Ra228		8.21e-01	9.8e-02	5.6e-02	PCI/GDRY	04/06/2016 12:01 EDT
Th234	J	5.46e-01	1.6e-01	2.3e-01	PCI/GDRY	04/06/2016 12:01 EDT
Tl208	J	2.17e-01	2.7e-02	1.5e-02	PCI/GDRY	04/06/2016 12:01 EDT

Note: A "J" qualifier indicates a result that may be significantly under or overestimated.

**U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ANALYTICAL RADIATION ENVIRONMENTAL LABORATORY**

SDG #1600017

SAMPLE ANALYSIS REPORT

Lab sample #:	B6.04150E	Amount analyzed:	3.130e+02 GDRY
Client sample ID:	C3-SB14-0012-01	Preparation batch #:	0013448P
Matrix:	SOIL	Assay batch #:	0020923Y
Collected:	2016-04-06 12:28 EDT	Prep procedure:	N/A
Sample type:	SAM	Analysis method:	NAREL GAM-01-RA
Dry/wet weight:	97.41 %	Analyst:	MO
Ash/dry weight:	91.39 %	QC type:	ANA
Sample description:	N/A		
Comment:	N/A		

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/13/2016 11:38	1000.0	GE12	MO

ANALYTICAL RESULTS

Analyte		Activity	$\pm 2 \sigma$ Uncertainty	MDC	Unit	Reference Date
Bi212	J	5.88e-01	1.4e-01	1.3e-01	PCI/GDRY	04/06/2016 12:28 EDT
Bi214	J	5.75e-01	6.7e-02	2.0e-02	PCI/GDRY	04/06/2016 12:28 EDT
Cs137		8.12e-03	6.9e-03	8.5e-03	PCI/GDRY	04/06/2016 12:28 EDT
K40		1.15e+01	1.3e+00	9.4e-02	PCI/GDRY	04/06/2016 12:28 EDT
Pb210	J	5.92e-01	1.9e-01	2.3e-01	PCI/GDRY	04/06/2016 12:28 EDT
Pb212	J	5.46e-01	6.2e-02	1.5e-02	PCI/GDRY	04/06/2016 12:28 EDT
Pb214	J	6.62e-01	7.6e-02	2.1e-02	PCI/GDRY	04/06/2016 12:28 EDT
Ra226	J	1.02e+00	2.0e-01	2.0e-01	PCI/GDRY	04/06/2016 12:28 EDT
Ra228		5.56e-01	6.8e-02	3.8e-02	PCI/GDRY	04/06/2016 12:28 EDT
Th234	J	3.68e-01	1.5e-01	2.2e-01	PCI/GDRY	04/06/2016 12:28 EDT
Tl208	J	1.67e-01	2.1e-02	1.0e-02	PCI/GDRY	04/06/2016 12:28 EDT
U235	J	4.46e-02	3.7e-02	5.2e-02	PCI/GDRY	04/06/2016 12:28 EDT

Note: A "J" qualifier indicates a result that may be significantly under or overestimated.

**U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ANALYTICAL RADIATION ENVIRONMENTAL LABORATORY**

SDG #1600017

SAMPLE ANALYSIS REPORT

Lab sample #:	B6.04151F	Amount analyzed:	2.820e+02 GDRY
Client sample ID:	C3-SB15-0012-01	Preparation batch #:	0013448P
Matrix:	SOIL	Assay batch #:	0020923Y
Collected:	2016-04-06 10:43 EDT	Prep procedure:	N/A
Sample type:	SAM	Analysis method:	NAREL GAM-01-RA
Dry/wet weight:	85.96 %	Analyst:	MO
Ash/dry weight:	95.51 %	QC type:	ANA
Sample description:	N/A		
Comment:	N/A		

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/13/2016 11:39	1000.0	GE15	MO

ANALYTICAL RESULTS

Analyte		Activity	$\pm 2 \sigma$ Uncertainty	MDC	Unit	Reference Date
Bi212	J	1.04e+00	1.8e-01	1.4e-01	PCI/GDRY	04/06/2016 10:43 EDT
Bi214	J	8.69e-01	1.0e-01	2.6e-02	PCI/GDRY	04/06/2016 10:43 EDT
Cs137		7.26e-02	1.3e-02	1.1e-02	PCI/GDRY	04/06/2016 10:43 EDT
K40		1.35e+01	1.5e+00	1.2e-01	PCI/GDRY	04/06/2016 10:43 EDT
Pb210	J	1.38e+00	2.8e-01	2.9e-01	PCI/GDRY	04/06/2016 10:43 EDT
Pb212	J	8.58e-01	9.7e-02	2.3e-02	PCI/GDRY	04/06/2016 10:43 EDT
Pb214	J	1.05e+00	1.2e-01	2.9e-02	PCI/GDRY	04/06/2016 10:43 EDT
Ra226	J	1.79e+00	2.9e-01	2.4e-01	PCI/GDRY	04/06/2016 10:43 EDT
Ra228		8.62e-01	1.1e-01	4.8e-02	PCI/GDRY	04/06/2016 10:43 EDT
Th234	J	7.92e-01	2.7e-01	3.0e-01	PCI/GDRY	04/06/2016 10:43 EDT
Tl208	J	2.64e-01	3.3e-02	1.4e-02	PCI/GDRY	04/06/2016 10:43 EDT

Note: A "J" qualifier indicates a result that may be significantly under or overestimated.

**U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ANALYTICAL RADIATION ENVIRONMENTAL LABORATORY**

SDG #1600017

SAMPLE ANALYSIS REPORT

Lab sample #:	B6.04152G	Amount analyzed:	6.550e+02 GDRY
Client sample ID:	C3-SB15-2436-01	Preparation batch #:	0013448P
Matrix:	SOIL	Assay batch #:	0020923Y
Collected:	2016-04-06 10:43 EDT	Prep procedure:	N/A
Sample type:	SAM	Analysis method:	NAREL GAM-01-RA
Dry/wet weight:	91.97 %	Analyst:	MO
Ash/dry weight:	98.05 %	QC type:	ANA
Sample description:	N/A		
Comment:	N/A		

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/13/2016 11:40	1000.0	GE16	MO

ANALYTICAL RESULTS

Analyte		Activity	$\pm 2 \sigma$ Uncertainty	MDC	Unit	Reference Date
Bi212	J	1.03e+00	1.4e-01	9.1e-02	PCI/GDRY	04/06/2016 10:43 EDT
Bi214	J	5.52e-01	6.3e-02	1.6e-02	PCI/GDRY	04/06/2016 10:43 EDT
Cs137		9.09e-03	4.7e-03	6.2e-03	PCI/GDRY	04/06/2016 10:43 EDT
K40		1.29e+01	1.4e+00	5.7e-02	PCI/GDRY	04/06/2016 10:43 EDT
Pb210	J	5.59e-01	1.6e-01	2.0e-01	PCI/GDRY	04/06/2016 10:43 EDT
Pb212	J	8.83e-01	1.0e-01	1.3e-02	PCI/GDRY	04/06/2016 10:43 EDT
Pb214	J	6.46e-01	7.4e-02	1.7e-02	PCI/GDRY	04/06/2016 10:43 EDT
Ra226	J	1.16e+00	1.8e-01	1.6e-01	PCI/GDRY	04/06/2016 10:43 EDT
Ra228		8.98e-01	1.0e-01	2.7e-02	PCI/GDRY	04/06/2016 10:43 EDT
Th234	J	5.99e-01	1.6e-01	2.1e-01	PCI/GDRY	04/06/2016 10:43 EDT
Tl208	J	2.80e-01	3.2e-02	8.2e-03	PCI/GDRY	04/06/2016 10:43 EDT

Note: A "J" qualifier indicates a result that may be significantly under or overestimated.

**U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ANALYTICAL RADIATION ENVIRONMENTAL LABORATORY**

SDG #1600017

SAMPLE ANALYSIS REPORT

Lab sample #:	B6.04153H	Amount analyzed:	1.750e+02 GDRY
Client sample ID:	C3-SB16-0012-01	Preparation batch #:	0013448P
Matrix:	SOIL	Assay batch #:	0020923Y
Collected:	2016-04-06 08:35 EDT	Prep procedure:	N/A
Sample type:	SAM	Analysis method:	NAREL GAM-01-RA
Dry/wet weight:	96.85 %	Analyst:	MO
Ash/dry weight:	93.53 %	QC type:	ANA
Sample description:	N/A		
Comment:	N/A		

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/14/2016 16:02	1000.0	GE15	MO

ANALYTICAL RESULTS

Analyte		Activity	$\pm 2 \sigma$ Uncertainty	MDC	Unit	Reference Date
Bi212	J	9.72e-01	1.9e-01	1.6e-01	PCI/GDRY	04/06/2016 08:35 EDT
Bi214	J	3.89e-01	5.2e-02	2.9e-02	PCI/GDRY	04/06/2016 08:35 EDT
Cs137		1.36e-03	1.1e-02	1.2e-02	PCI/GDRY	04/06/2016 08:35 EDT
K40		1.69e+01	1.9e+00	1.4e-01	PCI/GDRY	04/06/2016 08:35 EDT
Pb210	J	6.19e-01	1.8e-01	2.2e-01	PCI/GDRY	04/06/2016 08:35 EDT
Pb212	J	7.71e-01	8.7e-02	2.4e-02	PCI/GDRY	04/06/2016 08:35 EDT
Pb214	J	4.84e-01	6.2e-02	3.1e-02	PCI/GDRY	04/06/2016 08:35 EDT
Ra226	J	8.72e-01	2.2e-01	2.2e-01	PCI/GDRY	04/06/2016 08:35 EDT
Ra228		7.96e-01	1.0e-01	5.0e-02	PCI/GDRY	04/06/2016 08:35 EDT
Th234	J	6.86e-01	2.7e-01	2.8e-01	PCI/GDRY	04/06/2016 08:35 EDT
Tl208	J	2.25e-01	2.8e-02	1.4e-02	PCI/GDRY	04/06/2016 08:35 EDT

Note: A "J" qualifier indicates a result that may be significantly under or overestimated.

**U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ANALYTICAL RADIATION ENVIRONMENTAL LABORATORY**

SDG #1600017

SAMPLE ANALYSIS REPORT

Lab sample #:	B6.04154J	Amount analyzed:	5.820e+02 GDRY
Client sample ID:	C3-SB16-3648-01	Preparation batch #:	0013448P
Matrix:	SOIL	Assay batch #:	0020923Y
Collected:	2016-04-06 08:36 EDT	Prep procedure:	N/A
Sample type:	SAM	Analysis method:	NAREL GAM-01-RA
Dry/wet weight:	88.04 %	Analyst:	MO
Ash/dry weight:	97.34 %	QC type:	ANA
Sample description:	N/A		
Comment:	N/A		

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/14/2016 16:03	1000.0	GE16	MO

ANALYTICAL RESULTS

Analyte		Activity	$\pm 2 \sigma$ Uncertainty	MDC	Unit	Reference Date
Bi212	J	9.88e-01	1.4e-01	9.5e-02	PCI/GDRY	04/06/2016 08:36 EDT
Bi214	J	5.37e-01	6.2e-02	1.6e-02	PCI/GDRY	04/06/2016 08:36 EDT
Cs137		1.34e-03	6.4e-03	7.7e-03	PCI/GDRY	04/06/2016 08:36 EDT
K40		1.30e+01	1.4e+00	6.3e-02	PCI/GDRY	04/06/2016 08:36 EDT
Pb210	J	5.53e-01	1.7e-01	2.1e-01	PCI/GDRY	04/06/2016 08:36 EDT
Pb212	J	9.01e-01	1.0e-01	1.5e-02	PCI/GDRY	04/06/2016 08:36 EDT
Pb214	J	6.19e-01	7.1e-02	1.9e-02	PCI/GDRY	04/06/2016 08:36 EDT
Ra226	J	1.11e+00	1.8e-01	1.7e-01	PCI/GDRY	04/06/2016 08:36 EDT
Ra228		9.38e-01	1.1e-01	2.4e-02	PCI/GDRY	04/06/2016 08:36 EDT
Th234	J	6.07e-01	1.7e-01	2.3e-01	PCI/GDRY	04/06/2016 08:36 EDT
Tl208	J	2.88e-01	3.3e-02	7.8e-03	PCI/GDRY	04/06/2016 08:36 EDT

Note: A "J" qualifier indicates a result that may be significantly under or overestimated.

**U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ANALYTICAL RADIATION ENVIRONMENTAL LABORATORY**

SDG #1600017

SAMPLE ANALYSIS REPORT

Lab sample #:	LCS-00735408F	Amount analyzed:	1.000e+00 SAMP
Client sample ID:	N/A	Preparation batch #:	0013448P
Matrix:	N/A	Assay batch #:	0020923Y
Collected:	N/A	Prep procedure:	N/A
Sample type:	N/A	Analysis method:	NAREL GAM-01-RA
Dry/wet weight:	N/A	Analyst:	MO
Ash/dry weight:	N/A	QC type:	LCS
Sample description:	N/A		
Comment:	N/A		

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/15/2016 15:25	1000.0	GE16	MO

ANALYTICAL RESULTS

Analyte	Activity	$\pm 2 \sigma$ Uncertainty	MDC	Unit	Reference Date
Bi207	4.61e+03	4.9e+02	5.3e+01	PCI	12/15/2010 12:00 CST
Bi212 J	3.80e+02	1.3e+02	1.5e+02	PCI	12/15/2010 12:00 CST
Bi214 J	1.22e+02	1.5e+01	8.4e+00	PCI	12/15/2010 12:00 CST
Eu155	1.13e+03	1.3e+02	3.6e+01	PCI	12/15/2010 12:00 CST
Pb212 J	3.32e+02	3.9e+01	1.8e+01	PCI	12/15/2010 12:00 CST
Pb214 J	1.46e+02	2.0e+01	1.5e+01	PCI	12/15/2010 12:00 CST
Ra226 J	3.19e+02	8.8e+01	1.1e+02	PCI	12/15/2010 12:00 CST
Ra228	3.62e+02	4.7e+01	4.1e+01	PCI	12/15/2010 12:00 CST
Tl208 J	1.10e+02	1.5e+01	1.0e+01	PCI	12/15/2010 12:00 CST

Note: A "J" qualifier indicates a result that may be significantly under or overestimated.

**U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ANALYTICAL RADIATION ENVIRONMENTAL LABORATORY**

SDG #1600017

SAMPLE ANALYSIS REPORT

Lab sample #:	RBK-00735409G	Amount analyzed:	1.000e+00 SAMP
Client sample ID:	N/A	Preparation batch #:	0013448P
Matrix:	N/A	Assay batch #:	0020923Y
Collected:	N/A	Prep procedure:	N/A
Sample type:	N/A	Analysis method:	NAREL GAM-01-RA
Dry/wet weight:	N/A	Analyst:	MO
Ash/dry weight:	N/A	QC type:	RBK
Sample description:	N/A		
Comment:	N/A		

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/15/2016 15:37	1000.0	GE15	MO

ANALYTICAL RESULTS

Analyte		Activity	$\pm 2 \sigma$ Uncertainty	MDC	Unit	Reference Date
Bi212	J	1.44e+01	2.3e+01	2.4e+01	PCI	06/09/2016 07:00 CDT
Bi214	J	-4.27e+00	5.3e+00	5.6e+00	PCI	06/09/2016 07:00 CDT
Cs137		2.17e-01	1.6e+00	1.8e+00	PCI	06/09/2016 07:00 CDT
Pb210	J	3.95e+01	3.7e+01	4.4e+01	PCI	06/09/2016 07:00 CDT
Pb212	J	-4.85e+00	3.5e+00	4.5e+00	PCI	06/09/2016 07:00 CDT
Pb214	J	-2.07e+00	4.9e+00	5.3e+00	PCI	06/09/2016 07:00 CDT
Ra226	J	-1.14e+01	3.4e+01	3.6e+01	PCI	06/09/2016 07:00 CDT
Ra228		-6.91e+00	7.5e+00	8.9e+00	PCI	06/09/2016 07:00 CDT
Th234	J	1.13e+00	4.0e+01	4.1e+01	PCI	06/09/2016 07:00 CDT
Tl208	J	-5.55e-01	2.0e+00	2.5e+00	PCI	06/09/2016 07:00 CDT

Note: A "J" qualifier indicates a result that may be significantly under or overestimated.

**U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ANALYTICAL RADIATION ENVIRONMENTAL LABORATORY**

SDG 1600017

PREPARATION BATCH SUMMARY

Preparation batch #: 0013448P
 Analysis method: NAREL GAM-01-RA
 Preparation procedure: N/A

NAREL Sample #	Client Sample ID	Analysis #	QC Type	Yield	$\pm 2 \sigma$ Uncertainty	Analyst
B6.04138J	C3-SB9-0012-01	00733736L		N/A		MO
B6.04139K	C3-SB9-1224-01	00733739P		N/A		MO
B6.04140C	C3-SB10-0012-01	00733742J		N/A		MO
B6.04141D	C3-SB10-1224-01	00733745M		N/A		MO
B6.04142E	C3-SB10-6072-01	00733748Q		N/A		MO
B6.04143F	C3-SB10-7284-01	00733751K		N/A		MO
B6.04144G	C3-SB10-8496-01	00733754N		N/A		MO
B6.04145H	C3-SB11-0012-01	00733757R		N/A		MO
B6.04146J	C3-SB11-3648-01	00733760L		N/A		MO
B6.04146J	C3-SB11-3648-01	00735407E	DUP	N/A		MO
B6.04147K	C3-SB12-0012-01	00733763P		N/A		MO
B6.04148L	C3-SB13-0012-01	00733766T		N/A		MO
B6.04149M	C3-SB13-1224-01	00733769W		N/A		MO
B6.04150E	C3-SB14-0012-01	00733772Q		N/A		MO
B6.04151F	C3-SB15-0012-01	00733775U		N/A		MO
B6.04152G	C3-SB15-2436-01	00733778X		N/A		MO
B6.04153H	C3-SB16-0012-01	00733781R		N/A		MO
B6.04154J	C3-SB16-3648-01	00733784V		N/A		MO
LCS-00735408F *		00735408F	LCS	N/A		MO
RBK-00735409G *		00735409G	RBK	N/A		MO

* Samples marked with an asterisk are not in this sample delivery group but were analyzed with it for QC purposes.

QC RESULTS FOR BATCH 0013448P

NAREL Sample #	Analysis #	QC Type	Analyte	%R	RPD	Z	Evaluation
B6.04146J	00735407E	DUP	BI212		6.2	0.49	PASS-J
B6.04146J	00735407E	DUP	BI214		1.5	-0.18	PASS-J
B6.04146J	00735407E	DUP	CS137		-142.8	0.79	PASS
B6.04146J	00735407E	DUP	K40		0.7	0.09	PASS
B6.04146J	00735407E	DUP	PB210		0.8	-0.04	PASS-J
B6.04146J	00735407E	DUP	PB212		2.4	-0.29	PASS-J
B6.04146J	00735407E	DUP	PB214		2.3	-0.28	PASS-J
B6.04146J	00735407E	DUP	RA226		18.3	-1.36	PASS-J
B6.04146J	00735407E	DUP	RA228		5.2	-0.62	PASS
B6.04146J	00735407E	DUP	TH234		4.9	0.25	PASS-J
B6.04146J	00735407E	DUP	TL208		0.6	0.07	PASS-J
LCS-00735408F	00735408F	LCS	BI207	97.9		-0.37	PASS
LCS-00735408F	00735408F	LCS	EU155	110.3		1.48	PASS
RBK-00735409G	00735409G	RBK	BI212				PASS-J
RBK-00735409G	00735409G	RBK	BI214				PASS-J
RBK-00735409G	00735409G	RBK	CS137				PASS
RBK-00735409G	00735409G	RBK	PB210				WARN-J
RBK-00735409G	00735409G	RBK	PB212				WARN-J
RBK-00735409G	00735409G	RBK	PB214				PASS-J
RBK-00735409G	00735409G	RBK	RA226				PASS-J
RBK-00735409G	00735409G	RBK	RA228				PASS
RBK-00735409G	00735409G	RBK	TH234				PASS-J
RBK-00735409G	00735409G	RBK	TL208				PASS-J

Note: Results qualified with -J may be significantly under or over-estimated and are not evaluated for QC purposes.